ARS 91-6-4
July 1966

A GUIDE
to the duties and responsibilities of accredited
VETERINARIANS

Agricultural Research Service,
UNITED STATES DEPARTMENT OF AGRICULTURE

PREFACE

Animal diseases cost livestock growers and the American economy an estimated 1 billion dollars a year. Much of this is preventable. But the manner of disease spread is complex. If this burden ever is to be relieved, it will be only as a consequence of the cooperative efforts of the veterinary profession.

Veterinary competence begins in college. It progresses through practice and training. For many years Federal regulatory agencies have relied on the ability and integrity of accredited veterinarians in the cooperative control and eradication of livestock diseases. Most State and Federal regulations evidence this reliance by specifying that certain livestock movements may be made when certified by a full-time State or Federal veterinarian, or an accredited veterinarian. The propulsion of mankind into the jet-age, with foreign animal diseases only hours away, has accentuated dependence and cooperative needs.

Accredited veterinarians who are privileged to cooperate with the regulatory divisions in disease control programs are not only protecting the livestock industry of the Nation, but adding to the well-being of mankind. This is a responsibility neither lightly given nor assumed.

Graduate veterinarians who are interested in becoming accredited should contact the State Veterinarian or the Federal Veterinarian in Charge of disease control and eradication activities of the State in which accreditation is desired. Because accreditation in one State is not valid in another, an applicant wishing accreditation should contact the officials in each respective State.

CONTENTS

Prepared by
Animal Health Division
Agricultural Research Service
U.S. Department of Agriculture
Hyattsville, Md. 20782

A GUIDE TO THE DUTIES AND RESPONSIBILITIES OF ACCREDITED VETERINARIANS

ANIMAL HEALTH DIVISION

The Animal Health Division is responsible at the Federal level for the formulation and administration of cooperative State-Federal programs for the control and eradication of animal diseases.

The responsibility for protecting the health of the Nation's livestock encompasses activities that include full-scale eradication programs, more limited activities in certain diseases, epidemiological surveys, laboratory and field diagnostic services, and a continuing interest in all animal diseases, domestic as well as foreign, that pose a threat to the Nation's animal food supply.

This is a summary of some of those activities.

ANAPLASMOSIS

As an infectious disease of cattle, anaplasmosis comes under Federal laws and regulations that prohibit the interstate movement of diseased animals. Some States also have requirements that pertain to anaplasmosis; therefore, it is necessary that accredited veterinarians check not only the Federal requirements, but also the requirements of the State of destination prior to issuing interstate health certificates.

There are a number of useful tools in diagnosing and handling anaplasmosis--the complement-fixation (CF) test, the capillary tube agglutination test, a killed vaccine, direct blood smear examinations, antibiotic treatments, vector control, sanitation, and others. Many infected herds have been freed of the disease by the judicious use of test and segregation. The State of Hawaii has completed the eradication of anaplasmosis through a test and disposal program and now maintains its anaplasmosis-free status through the rigid testing of imports. Other States offer assistance in establishing anaplasmosis-free herds.

The Division, in cooperation with State animal disease control officials and cooperating livestock producers, has conducted surveys and field studies to determine the distribution and incidence of anaplasmosis. Complement-fixation testing services are provided by the Division's Technical Services Laboratory ARS, USDA, at Agricultural Research Center, Beltsville, Md., as well as at State-Federal cooperative laboratories in many States. The Division also trains serologists from cooperating laboratories in conducting the test.

BLUETONGUE

Bluetongue probably has been in the United States for a number of years. It was first mentioned in Texas in 1948 under the name "soremuzzle." Since 1948, clinical diagnosis of bluetongue has been confirmed by laboratory studies in Arizona, California, Colorado, Idaho, Kansas, Missouri, Montana, Nebraska, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Texas, Utah, and Wyoming. Cases in other States have been suspected.

When bluetongue is suspected, livestock sanitary officials should be notified. They will make arrangements with the Animal Disease and Parasite Research Laboratory at Denver, Colo., for inoculation tests. This test is made with blood collected from animals in the early stages of the disease--preferably those with high temperatures. This is the most satisfactory means of confirming a clinical diagnosis of bluetongue.

Control measures include vaccination in areas where the disease is endemic and protection against the insect vector.

BRUCELLOSIS ERADICATION

The Program

The eradication of brucellosis from all species of domestic livestock is a cooperative program between the States and the Federal Government, conducted under the laws and regulations of the individual States. The Federal Government cooperates with the States through memorandums of understanding under authority of specific Federal laws relating to animal diseases. The Uniform Methods and Rules, Brucellosis Eradication, are used as a guide, and constitute a recommended evolving program that will lead to total eradication of brucellosis from the entire Nation. The Uniform Methods and Rules are adopted by the U.S. Livestock Sanitary Association (USLSA) and approved by the Animal Health Division, Agricultural Research Service, USDA. Amendments to the Uniform Methods and Rules are considered by the USLSA at the annual meetings.

Interstate Movement of Animals as Related to the Brucellosis Program

The Division has primary responsibility for the control of interstate movements of animals. Federal regulations, promulgated by the Department, set forth the provisions under which animals may be transported interstate. The regulations are promulgated under the authority of the basic Federal laws concerned with animal disease control and eradication activities. These laws also provide the Department with authority to contract for the services of accredited veterinarians to assist in the brucellosis eradication program.

Accredited veterinarians should be familiar with the Federal regulations pertinent to the brucellosis eradication program, whether or not they participate directly. As a service to their clients, most of them will be issuing official documents and performing other services required by the regulations.

Specific Federal Regulations Related to the Program

Applicable regulations will be found in the Code of Federal Regulations, Title 9, Chapter I, Subchapter B, Part 51, and Subchapter C, Parts 71 and 78.

Part 51 sets forth the provisions under which indemnities will be paid for animals destroyed because of brucellosis (as well as some other diseases).

Part 71 includes general provisions for interstate transportation of animals, including instructions for cleaning and disinfecting vehicles, yards, premises, and such, and the permitted disinfectants to be used.

Part 78 is specifically related to brucellosis, setting forth in detail the provisions under which animals may or may not be moved interstate.

Amendments to the Federal Regulations

Federal regulations are amended at frequent intervals as the need arises. Amendments appear in the Federal Register, published by the Office of the Federal Register, National Archives and Records Service, General Services Administration. The Register is distributed by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20250. Copies of the regulations and recent amendments are available from the Veterinarians in Charge, Animal Health Division, in the various States.

Specifically Approved Markets--Certified Areas

Part 78 is particularly important in that it lists livestock markets and packing plants that are specifically approved to receive animals moving interstate under provisions of the brucellosis regulation. Also, it lists those States and Counties that have achieved status as Modified Certified Brucellosis Areas under the cooperative State-Federal brucellosis eradication program. Animals from such areas enjoy special privileges in interstate movements as opposed to those from areas that have not yet attained this status.

History of Brucellosis Eradication

The cooperative State-Federal brucellosis eradication program began in 1934 as a drought relief program. Most States participated from the start. At that time the program was based on the blood-serum agglutination test of cattle, with elimination of reactors. By this method alone, the animal infection rate was reduced in participating areas from 11.5 percent in 1935 to 2.5 percent in 1939. However, it became increasingly apparent that additional measures would be necessary if eradication were to be achieved.

Strain 19 Vaccine.--During this period, Department of Agriculture scientists were working to perfect a vaccine to be used against brucellosis. Strain 19 vaccine was the outcome of this effort. The vaccine was introduced into the official program in 1941 and has proved a valuable adjunct to the other procedures included in the program. Research trials over the years and extensive field surveys have established the efficacy of the vaccine. It has been found that there will be approximately 65 percent fewer infected cattle among vaccinated populations than among nonvaccinated populations under known conditions of average exposure. The merits of the vaccine have been proven, but its limitations in relation to the total eradication program must be kept in mind.

Milk Ring Tests.--In 1952 the milk ring test was approved and became a vital phase of the brucellosis eradication program. All commercial dairy herds in the U.S. are screened at least twice annually by this method. Eradication efforts are concentrated in those which are suspicious to the test. A suspicious ring reaction is presumptive evidence of Brucella infection and is followed by a herd blood test. The test is remarkably specific; less than one-half of 1 percent suspicious tests is now common in many States. Thus, more than 99 percent of the blood testing of dairy herds that would otherwise be necessary has been eliminated in these States. As time permits, those few herds that are persistently suspicious to the milk ring test but do not reveal blood test reactors are the object of further investigations as to the cause. In almost all such situations, brucellosis is present in a subclinical form.

Market Cattle Tests.--Another effective screening program utilized in brucellosis eradication is the market cattle testing program. Introduced in 1958, this procedure involves the testing of identified cows at market centers and packing plants. The animals are traced to herds of origin, and the brucellosis status of each participating herd is thereby established and maintained. Herds which present conclusive evidence through market cattle testing that brucellosis is present are placed on an individual animal testing program according to the several alternatives set forth in the Uniform Methods and Rules. The market cattle testing program is contributing materially to the brucellosis eradication effort in many sections of the country. The procedure is also being expanded to include swine. Its universal adoption is anticipated since this will provide the frequency of screening necessary to disclose the majority of the outbreaks of brucellosis and thereby help assure eradication.

Eradication the Goal

The importance of carrying out the above-mentioned procedures on an area basis cannot be overemphasized. The goal of area, State, and nationwide certification can be attained only when recommended procedures are uniformly applied to all herds within all areas. The certification

of areas is an important step in the overall program to eradicate brucellosis. Without organized area effort and the wholehearted participation of all herd owners, veterinarians, and others participating in the program, gains already made will be difficult to maintain, and the final goal of complete eradication of brucellosis will be delayed.

Participation of Accredited Veterinarians

The majority of accredited veterinarians will be participating in some part of the brucellosis eradication program prior to its completion. They will perform the following services:

- Provide herd owners and other interested parties with facts concerning the brucellosis eradication program and about the disease itself.
- Obtain blood samples and otherwise perform professional services promptly when requested by owners and authorized by officials.
- Prepare in detail and submit test record charts, include identification of animals, estimated age, pertinent history, vaccination record, and other information required by the chart.
- Promptly tag, brand, and appraise all reactors as requested. Indemnity claims constitute a legal and binding contract when approved, and the importance of accurate and full information cannot be overemphasized.
- Instruct owners of infected animals as to isolation and proper disposal of reactors, quarantine, shipping permits, cleaning and disinfecting of premises and equipment, indemnity claims, and management practices to preclude recurrence of the disease.
- Retest infected herds promptly as requested by program officials. In general, retests of herds should be accomplished 30 to 60 days following removal of reactors unless there are cogent reasons and official approval for shortening the period. Without a prompt retest, the owner's initial investment in disease eradication may be lost.
- Maintain stocks of strain 19 vaccine and administer the vaccine in such a manner as to assure a potent product.
- Vaccinate calves at recommended ages, accurately identify them, and promptly report all vaccinations to State or Federal officials. If the tattoo is used, the accredited veterinarian is expected to utilize techniques that will assure legibility. Following is a definition of an "Official Vaccinate": A bovine animal vaccinated against brucellosis with an approved Brucella vaccine while from 4 through 8 months of age, or a bovine animal of a beef breed in a range or semirange area vaccinated against brucellosis with an approved Brucella vaccine while from 4 to 12 months of age, under the supervision of a Federal or State veterinary official, permanently identified as such a vaccinate, and reported at the time of vaccination to the appropriate State or Federal agency cooperating in the eradication of brucellosis.

The Accredited Veterinarian: A Representative of The Government

The accredited veterinarian, in assuming responsibilities for brucellosis eradication program activities, becomes a representative of the Government. He should accept his full share of the program workload consistent with his available time. In estimating his participation, early completion of assignments should receive primary consideration. He should be willing to keep himself fully informed of the details of the program, as well as advances in the principles of brucellosis eradication. He should perform all services in accordance with State and Federal laws and regulations, and with approved procedures. As a representative of the Government and the veterinary profession, he should observe the highest standards of professional technique.

Some Suggested Techniques in Brucellosis Testing

1. Draw blood carefully so as to minimize contamination by filling tubes about half full. Allow to stand at room temperature until firmly clotted (2 or 3 hours), then cool or refrigerate (do not freeze).

2. Clearly label each tube, examine the stopper to assure firm fit and absence of leakage, and carefully pack as directed to prevent breakage. Marks on the tubes containing each sample will usually include an identification number assigned to each accredited veterinarian participating in the program.
3. Provide a separate sterile needle for each animal tested. Nose tongs should be disinfected between animals.
4. Use the following tables in classifying animals tested, except as noted in paragraph 5, below.

Official Vaccinates				All Others			
1/50	1/100	1/200	Result	1/50	1/100	1/200	Result
-	-	-	Negative	-	-	-	Negative
I	-	-	Negative	I	-	-	Suspect
+	-	-	Negative	+	-	-	Suspect
+	I	-	Suspect	+	I	-	Suspect
+	+	-	Suspect	+	+	-	Positive
+	+	I	Suspect	+	+	I	Positive
+	+	+	Positive	+	+	+	Positive

5. Animals that are classed as suspects according to the above tables but those that have a history of abortion may be designated reactors, if they are in a herd containing reactors and if approved by the Veterinarian in Charge. Such animals are eligible for indemnity in States where State and/or Federal indemnity is paid.

DOURINE

Dourine, or suspected dourine, should be reported promptly to livestock sanitary authorities. Veterinarians should be prepared to collect blood samples from suspected equines so that these authorities can forward preserved serum samples to the ANH Division Technical Services Laboratory, Beltsville, Md., for laboratory assistance in diagnosis, using the complement-fixation test.

EQUINE BABESIASIS
(Equine Piroplasmosis)

The first known case of equine babesiasis in the United States was diagnosed on August 10, 1961, in Florida. Neither the date, mode of entry into the country, nor the incidence in the United States is known. All confirmed cases of the disease have been limited to Florida and one premises each in Georgia and Puerto Rico.

The disease is caused by the protozoa Babesia caballi and B. equi, which invade the red blood cells of solipeds. B. caballi is considered to be less pathogenic than B. equi.

Worldwide, 15 species of ticks are incriminated or proven vectors of equine babesiasis. At least two of them are found in the United States--the brown dog tick, Rhipicephalus sanguineus, and the tropical horse tick, Dermacentor nitens.

Detection of equine babesiasis is tedious because there is no recognized practical diagnostic test. An experimental complement-fixation test shows good promise. Reliance is placed on demonstration of the protozoa in the red blood cells. Protozoa are most common in the peripheral circulation 2 to 5 days following appearance of symptoms. Differential diagnosis is further complicated by the fact that equine babesiasis is clinically indistinguishable from equine infectious anemia.

Veterinarians should be alert to cases of sick horses. When equine babesiasis or equine infectious anemia is suspected, Federal or State livestock sanitary officials should be notified

immediately. Accredited veterinarians should be acquainted with the special techniques of collecting peripheral blood for diagnosis of equine babesiosis. This information is available on request from Federal or State livestock officials. Ticks found on infected animals should be collected and forwarded to the ANH Division Technical Service Laboratory, Beltsville, Md., for identification.

EQUINE VIRAL ENCEPHALITIS

Equine viral encephalitis should be reported to State-Federal livestock sanitary authorities.

FOREIGN ANIMAL DISEASES

Present day speed and magnitude of world traffic has multiplied the possibilities of foreign animal diseases entering the United States. Early detection, containment, and eradication are essential to prevent widespread outbreaks with the accompanying economic loss to the national economy. The export of animal products depends largely upon the ability of the livestock industry to maintain a population free of the devastating diseases which rack a large segment of the world's animal population annually.

Many of these diseases cannot be accurately differentiated clinically from the enzootic diseases of the United States. Foot-and-mouth disease and vesicular stomatitis, African swine fever and hog cholera, rinderpest and virus diarrhea, fowl plague and Newcastle disease are examples of foreign and domestic diseases that are clinically difficult to differentiate.

The veterinary practitioner is the first line of defense against the establishment of a foreign animal disease in this country. His responsibility to recognize and to report a suspected new disease entity is paramount to the success of maintaining a healthy livestock population. To assist the practitioner in this area of responsibility, the ANH Division has strategically located veterinary diagnosticians specifically trained in the diagnosis of foreign diseases. Each diagnostician is fully equipped to collect and submit selected specimens to designated laboratories.

A State-Federal emergency disease eradication organization is established in each State to initiate immediate action in the event a foreign disease is diagnosed. These organizations through constant training and test exercises have developed the capability to mobilize equipment and manpower immediately to contain and eradicate a foreign animal disease outbreak. Cooperating agencies such as the National Guard, State Police, and County Extension Service have been alerted to the need for their assistance.

All suspected foreign animal diseases should be reported immediately to State or Federal livestock disease control officials to insure immediate coordination of efforts between the practitioner, the diagnostician, and the laboratory. Constant vigilance and investigation are essential to prevent the establishment of new diseases in the livestock population of the United States.

HOG CHOLERA

Known in the United States since 1833, hog cholera has been reported from all parts of the country and has killed more swine above weaning age than any other infectious disease. In 1962 an eradication campaign against hog cholera began.

The cooperative State-Federal hog cholera eradication program is based on the following principles:

- Prompt reporting of suspected outbreaks.
- Quarantine of infected and exposed swine.
- Increased levels of vaccination in endemic areas.

- Controls over interstate and intrastate movements of swine.
- Proper disposal of infected and exposed swine.
- Cleaning and disinfection of infected premises and facilities.
- Cooking garbage fed to swine.
- Extensive informational and educational campaigns concerning the disease and its eradication.

The cooperative State-Federal eradication program is divided into four steps or phases. These are:

Phase I, Preparation.--In Phase I, a State obtains laws or regulations for carrying out the program. State and county eradication committees are organized, and they help distribute information to producers. In this phase States develop their reporting systems, develop their capability to investigate each outbreak, and reemphasize garbage cooking through increased inspection of commercial garbage feeders.

Phase II, Reduction of Incidence.--A State moves into Phase II when all procedures outlined for Phase I are operating at the proper level with the additional requirements that: (1) All outbreaks are quarantined with provisions for supervised disposal of infected animals and (2) intrastate shipping rules are established to prevent swine spreading hog cholera in moving from markets back to farms.

Phase III, Elimination of Outbreaks.--This is the first active eradication phase of the program. A State enters Phase III when the intensive control measures developed in the first two phases have sufficiently reduced the incidence of hog cholera. This phase involves partial or complete depopulation of infected herds with indemnity when necessary.

Phase IV, Protection Against Reinfection.--When hog cholera apparently does not exist in a State, the State can move into Phase IV. All the steps in the preceding phases must be in full operation. In the event of outbreaks, herds must be completely depopulated. Generally, a State in Phase IV will be declared hog cholera free when there have been no outbreaks of hog cholera in the State for at least 1 year and live-virus vaccines have not been used in the State for at least 1 year.

Federal regulations concerning the hog cholera eradication program:--

- Establish inspection and vaccination procedures for healthy, unexposed feeding and breeding swine moving interstate.
- Prohibit the interstate shipment of swine affected with hog cholera.
- Restrict the interstate shipment of hogs fed raw garbage.

State laws and regulations may similarly restrict swine moving intrastate and, in some cases, impose import requirements in addition to those in Federal regulations.

The accredited veterinarian should acquire a thorough background in the hog cholera eradication program in his State in order to advise clients engaged in producing or marketing swine. He should study the disease and its differential diagnosis and immediately report suspected outbreaks. He should become well versed in the immunizing agents and their proper use. Familiarity with State and Federal requirements for shipment of swine is also his responsibility.

LEPTOSPIROSIS

Leptospirosis is caused by any one or a combination of Leptospira spp. All animals and man are susceptible to leptospirosis, depending upon the pathogenesis and host adaptability of the particular species of Leptospira involved. It is worldwide in distribution and is common in wildlife. Wild animals pose a threat to domestic animals as a potential reservoir for recurring outbreaks. Although eradication of leptospirosis is not possible with the tools now available, the disease can be controlled reasonably well by the proper use of available vaccines. Chemotherapy

is also effective in many instances. Effective sanitation and rodent control are indispensable when handling outbreaks. An infectious disease, leptospirosis comes under Federal and State laws and regulations prohibiting the interstate movement of affected animals.

Blood tests for leptospirosis, offered as a service by many State laboratories, has been an effective aid in leptospirosis control. Because this disease frequently resembles brucellosis in cattle and swine, it is very important to check for both when you investigate outbreaks in which abortion is reported. Division activities related to leptospirosis are limited at present to diagnostic serology in selected locations.

LEUKOSIS

The term "leukosis" embraces a number of diseases of the lymphatic tissues. The disease is found in all domestic animals, poultry, and man. It is particularly prevalent in chickens and rodents. In all species where a cause has been definitely demonstrated, it has been a virus. The viruses of avian leukosis are well known and have been studied extensively. The viruses of murine leukosis also have been studied extensively although isolated comparatively recently. A virus has been recovered from cats affected with feline leukosis. Viruslike particles have been seen with the electron microscope in lymphoid tumor tissues of man and the larger domestic animals. There is good reason to believe that when the causes of leukosis in the larger domestic animals and man have been found, they will prove to be viruses. The disease is being recognized more frequently in cattle in recent years, and much research is under way to establish its etiology. Because there is evidence that it is transmissible, domestic animals clinically affected with this disease should not be moved from herd to herd.

Denmark has had a bovine leukosis eradication program since 1959. Considerable progress has been made there. Other countries are viewing the disease with some degree of alarm. Germany and Sweden have found leukosis to be so prevalent that they cannot consider adopting a Denmark-type eradication program at this time without seriously interfering with the economy of their cattle industry. A number of foreign countries now require surveillance of herds of origin from which individual animals are imported. It is evident that leukosis will assume increasing importance in the years to come.

MASTITIS

Mastitis is the most serious and costly disease of dairy cattle in the United States. Although the causes are many and varied, a number of them are infectious. At least one form of mastitis--that caused by Streptococcus agalactiae--can be eradicated. Because of its insidious nature, however, it is frequently reintroduced with newly purchased cows. Other forms of mastitis can be materially reduced in frequency through improved husbandry, meticulous milking procedures, good sanitation, proper maintenance of milking equipment, and constant surveillance of milk quality.

The National Mastitis Council is leading the mastitis abatement effort in the United States; Statewide mastitis committees are being organized everywhere to increase the local efforts. There is a trend toward organized State programs, based upon milk quality and screening tests, with obligatory participation on the part of all dairymen. The majority of such programs utilize bulk-milk tests that disclose abnormally high leukocyte content. Because the mammary secretions of cows with mastitis do not meet the definition of milk as a human food product, bulk supplies containing such abnormal secretions are considered adulterated. Drugs used in treating mastitis must also be excluded from the public milk supply. The private practicing accredited veterinarian can do much to alleviate the mastitis situation and improve the quality of the public milk supply. Health examinations of dairy cows should always include the udder.

MUCOSAL DISEASE AND OTHER SIMILAR INFECTIOUS DISEASES

Bovine virus diarrhea, infectious bovine rhinotracheitis, and other infectious diseases of cattle with which they may be easily confused should be reported immediately to State and/or Federal animal health authorities. Correct and early diagnosis is very important because these diseases closely resemble such serious exotic diseases as rinderpest and contagious pleuropneumonia which are a constant threat to the livestock of the United States. Specially trained foreign animal disease diagnosticians are available to aid in the diagnosis of all outbreaks of diseases that could conceivably be of foreign origin. Alert private practicing veterinarians are an indispensable line of defense against exotic diseases which could cause devastating plagues among our livestock. The usual laws and regulations--that animals affected with infectious or communicable diseases may not move interstate--apply to these diseases.

POULTRY DISEASES

Poultry diseases cost producers about $300 million annually. Respiratory diseases, such as infectious bronchitis, Newcastle disease, and chronic respiratory disease (CRD) triggered by Mycoplasma organisms and complicated by Escherichia coli, cause a major part of this loss. Airsacculitis and related conditions produced by respiratory diseases account for about 40 percent of postmortem condemnation of poultry in federally inspected poultry processing plants. Veterinarians who inspect flocks for interstate shipment or for export should be alert for evidence and history of respiratory diseases.

Avian leukosis causes flock mortality and condemnation of carcass losses estimated at $65 million annually. It is the most rapidly increasing reported cause of postmortem condemnations in federally inspected poultry processing plants.

No Federal interstate shipping requirements exist for poultry relative to pullorum disease and fowl typhoid; however, many receiving States require that inshipped hatching eggs and poultry, except poultry intended for immediate slaughter, originate from flocks participating in the National Poultry or Turkey Improvement Plans (NPIP-NTIP), or equivalent programs. Accredited veterinarians may be called upon to inspect, test, and certify poultry and turkey shipments from NPIP or NTIP flocks for interstate or export movement. They, therefore, should be familiar with NPIP and NTIP or equivalent requirements.

Information about the NPIP-NTIP may be obtained from the office of the State veterinarian, appropriate State poultry disease control official, or Animal Health Division Veterinarian in Charge. Most States participate in a cooperative State-Federal system for reporting diagnosis and outbreaks of pullorum and typhoid. Accredited veterinarians should submit such reports to the appropriate State poultry disease control official.

The regulations of the receiving State regarding shipment of poultry into that State should be determined prior to movement. The office of the responsible disease control official can provide this information.

Most States require routine reporting of many domestic diseases of poultry. More information on this or other poultry diseases may be obtained from the office of the State disease control official.

Psittacosis, or ornithosis, outbreaks or suspected cases should be promptly reported. Positive diagnosis is based on isolation of the viral agent. Federal regulations prohibit interstate movement of live poultry, carcasses, parts, or offal from poultry with ornithosis. (See Title 9, CFR, Part 82 for more detailed information.)

Poultry disease outbreaks that manifest unusual virulence suggestive of an exotic disease, such as fowl plague or Asiatic type Newcastle disease, should be immediately reported to the appropriate State poultry disease control official. Live poultry affected with or exposed to fowl plague, or carcasses so affected, may not be moved interstate for any purpose. (See Title 9, CFR, Part 81 for more detailed information.)

SCABIES

Animals affected with scabies are prohibited by Federal regulations from moving interstate. Each State also has regulations concerning the handling of infected and exposed animals and movements from affected herds and flocks. National programs to eradicate both psoroptic sheep and cattle scabies are under way.

In August 1960, Federal sheep scabies regulations were amended and an accelerated sheep scabies eradication program was begun. At that time--

1,444 counties were considered sheep-scabies free.
Only 1 State, embracing 44 counties, had an active eradication program.
1,666 infected counties in 23 States and territories failed to qualify as sheep scabies eradication areas.

By July 1, 1966--

- The number of sheep-scabies-free counties had increased from 1,421 (45 percent) to 3,055 (96.8 percent)--a net increase of 1,634 counties.
- A total of 49 States qualified as sheep-scabies free (an increase of 22 States).
- Every county in the United States was actively participating in the Accelerated Sheep Scabies Eradication Program (a total of 3,154 counties).

Scabies is spread mainly by the introduction of infected animals into herds or flocks as purchases from market centers, sales rings, livestock shows, and stockyards. It continues to be a problem because of undetected and untreated reservoirs of infection. Advanced cases are easily identified. The early, atypical cases with little loss of fleece and limited scratching are more difficult to detect.

Veterinarians should have a hand lens for examining ectoparasites and take skin scrapings when scabies is suspected. Where there is loss of fleece or hair, mites are more commonly found at the periphery of the denuded area. Usually, mites are less active during the summer months. When scabies is suspected, livestock sanitary officials should be notified immediately.

Scabies is comparatively easy to eradicate by dipping, if all animals in infected and exposed herds or flocks are properly dipped in a permitted dip and are held in the dip solution at least 1 minute. Animals in infected herds or flocks are dipped twice; those in exposed herds or flocks at least once. The interval between the first and second dipping is 10 to 14 days. Frequently veterinarians are called upon to inspect and dip sheep and cattle because of scabies. They also issue certificates for interstate movements or for compliance with State-of-destination requirements.

It is very important that veterinarians determine the origin of infection so that animals moved from infected and exposed herds may be located and treated.

SCRAPIE

Scrapie is an infectious, chronic, degenerative disease of sheep and goats with an onset that is difficult to detect. An owner may first notice only unusual behavior in affected sheep. The veterinarian must become adept at recognizing early signs and be qualified to explain in detail to the owner the characteristics of the disease.

The diagnosis of scrapie is based on signs, history, and histopathological findings. The disease appears most frequently in sheep 2 to 4 years old and seldom in sheep under 18 months of age. A clinical diagnosis of scrapie is confirmed by demonstrating vacuoles in neurons of the medulla on histological examination. The disease should be differentiated from listeriosis, Aujesky's disease, rabies, pregnancy toxemia, and scabies.

Scrapie was first diagnosed in the United States in a Michigan flock in 1947. The disease has now been diagnosed in 155 flocks in the States of Alabama, California, Connecticut, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Mississippi, Missouri, New York, North Carolina, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Of the infected flocks, 6 were of the Cheviot breed, 1 of the Hampshire breed, and 147 of the Suffolk breed.

The cause of scrapie has been a subject of controversy for many years. The consensus of research and regulatory workers now is that the disease is caused by a filterable virus having unusual resistance to heat and disinfectants. The fact that the disease has been produced readily in both sheep and goats, and more recently in mice, rats, and hamsters by inoculation, further supports the contention that the disease is due to a filterable virus.

The State-Federal cooperative eradication program is based on the principle that scrapie is an infectious disease for which the animal inherits susceptibility or resistance but that the susceptible ones will not get scrapie unless exposed to the causative agent. The program provides for the slaughter of all bloodline related animals (sire and dam, all progeny, sibs and half-sibs of the affected animal) wherever they may be. The non-bloodline animals in the source or infected flocks are quarantined for 24 months with monthly surveillance inspections of these flocks for an additional 18 months following quarantine release. Nonbloodline exposed animals sold from the source or infected flocks will be under surveillance for 42 months following last exposure, with semiannual inspections. In some cases, depending upon circumstances of the outbreak, the entire source and infected flocks and all exposed animals moved from these flocks and immediate progeny of these animals are slaughtered. Periodic surveillance inspections of approximately 564 flocks are now being conducted in 26 States.

When scrapie is suspected, livestock sanitary officials should be notified immediately. The suspected animal should not be slaughtered until the officials have had an opportunity to observe the clinical signs and have determined that the case is advanced sufficiently so that a satisfactory specimen of brain tissue can be obtained for laboratory examination.

SCREWWORMS

Screwworms are the larvae (maggots) of the fly, Cochliomyia hominivorax. They are true parasites, feeding only on the living flesh of warmblooded animals. Infested, untreated animals may die.

Screwworms are natives of tropical and subtropical areas of North and South America. They were first reported in the Southwest over 125 years ago. In 1933, screwworms were reported in Georgia, presumably introduced on infested animals from the Southwest. They spread rapidly and within 2 years were found throughout Florida and southern Georgia. Each summer, they would spread into Georgia, Alabama, South Carolina, and often into States farther north. Each winter, cold weather killed screwworms in most Southeastern areas, but the mild winter climate of peninsular Florida and, occasionally southern Georgia, Alabama, and South Carolina permitted them to exist through the winter. Surveys revealed annual losses from screwworms of approximately $20 million in the Southeast. About one-half of this loss occurred in Florida.

During 1958-59, an eradication program was conducted over 85,000 square miles in Florida, Georgia, and Alabama with the production and release of more than 3 billion laboratory-reared screwworm flies sterilized with radioactive Cobalt-60. The mating of the laboratory-reared sterile males with native females resulted in the production of eggs that failed to hatch. Continued release of irradiated males in overwhelming numbers eventually reduced the native screwworm population in the Southeast to zero. Mass production and dispersal of sterile flies ended in

November 1959. The cost for this successful eradication program was approximately $10 million or about one-half of the cost of living with screwworms each year.

During the eradication program, a livestock inspection line was maintained along the eastern border of Arkansas and Louisiana to protect the Southeastern States from becoming reinfested with screwworms from the self-sustaining populations of the Western States. This inspection was discontinued in June 1964.

In the spring of 1962, a program was started to eradicate screwworms from Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. This was a much more complex and difficult undertaking than the elimination of the pest from the Southeastern States. In the Southeast, screwworms usually were able to survive through the winter only in peninsular Florida. Water on three sides and cold weather on the north acted as effective barriers. The Southwestern States have no such advantages. The screwworm population in the Republic of Mexico provides a constant threat of reinfestation.

To protect the area from reinfestation, a barrier zone was established in northern Mexico. This barrier zone is formed by continuous release of sterile screwworm flies to prevent the invasion of native flies that could establish a self-sustaining new population. The Southwestern States of Texas, New Mexico, Oklahoma, Arkansas, and Louisiana were declared to be free of screwworms in February 1964. However, sporadic outbreaks have occurred since that time caused by migrating flies and movements of infested animals. Each outbreak has been successfully suppressed.

In the spring of 1965, eradication efforts were initiated in Arizona and California, and the artificial sterile fly barrier zone along the Mexican border was extended to the Pacific Ocean.

In April 1966, California was declared free of screwworms.

Before the beginning of the Southwestern program, it was estimated that screwworms cost the livestock producers of the Southwestern States up to $100 million in losses each year. The program in the Southwestern States has cost less than $6 million a year.

Veterinarians should be alert for cases of myiasis when they treat animals or issue health certificates. When screwworms are suspected, livestock sanitary officials should be immediately notified and specimens collected for identification at the ANH Division Technical Services Laboratory, Beltsville, Md. The interstate movement of livestock infested with screwworms is unlawful. For regulations concerning interstate shipment of screwworms--see CFR, Title 9, Part 71.

CATTLE TICK FEVER
(Bovine Piroplasmosis)

The cattle fever tick, Boophilus annulatus, has been eradicated from the United States, except for a narrow buffer zone on the Texas-Mexican border. All Mexican territory adjacent to the lower Rio Grande River boundary is tick-infested. Reinfestations in Texas occur regularly from ticks carried by Mexican animals illegally entering the United States. The buffer zone, under State and Federal quarantine, extends approximately 500 miles, from Del Rio to the Gulf of Mexico. The zone is patrolled constantly by Department inspectors who, in cooperation with Texas livestock sanitary authorities, apprehend stray animals from Mexico and prevent the dissemination of fever ticks.

The Federal-State cooperative eradication program, which includes inspection, quarantine, and dipping, is now confined to this buffer strip in southern Texas. Occasional reinfestations of the vector, however, also occur in California (introduced from Mexico), and in Florida.

The cattle fever tick, B. annulatus, may be carried by equines as well as cattle. The tropical variety, B. microplus, found in Puerto Rico, Florida, and Texas, also transmits tick fever. B. microplus may be carried by cattle, equines, sheep, and goats. Additional hosts, such as deer, have created local problems in the tick eradication program but have not prevented elimination of the vector.

Veterinarians should be alert for Boophilus ticks and other species, such as the red tick, Rhipicephalus evertsi, capable of serving as vectors of exotic diseases. This is true when

inspecting animals along the Mexican border, on routine inspections at concentration points, and whenever health certificates are issued at any location.

When fever ticks are suspected, livestock sanitary officials should be notified immediately and specimens collected for identification at the ANH Division Technical Services Laboratory, Beltsville, Md. When other species of ticks are found, they should be collected also for transmittal by livestock sanitary officials to the Parasite Reference Center.

In the United States the only recognized procedure for treating animals to destroy the cattle fever tick is by dipping at 14-day intervals in an arsenical solution containing 0.18 to 0.22 percent arsenious oxide. This procedure is continued for a period of 8 to 12 months on a premises where tick infestation is found. The strength of the dipping solution is determined by a vatside chemical test before each use.

In October 1960, Delnav emulsifiable concentrate maintained at a concentration of 0.15 percent was added to the list of permitted dips to be used only as an immediate-kill agent for the interstate movement of animals.

TUBERCULOSIS ERADICATION

The Program

The cooperative State-Federal tuberculosis program was started in 1917. At that time tuberculosis caused more losses among farm animals than any other infectious disease. Losses to farmers, stockyards, packers, and transportation agencies, as well as the dangers to human health led to the demands for an organized program to eradicate the disease. The immediate objective of the program was to control the disease. The long-range goal was eradication. Recognition was to be given to those areas that succeeded in reducing the disease to less than 0.5 percent. These areas or counties were to be designated as modified accredited areas.

The procedures for accomplishing these objectives were:

1. All cattle were to be tuberculin tested.
2. All reactors were to be slaughtered and subjected to necropsy.
3. All infected premises were to be cleaned and disinfected.
4. All movements were to be traced into and from infected herds to determine where the infection originated and where it may have spread.

Through diligent application of these procedures, all counties in the United States attained modified accredited status by 1940. Between 1917 and 1940 the incidence of bovine tuberculosis as measured by the tuberculin test was reduced from approximately 5 percent to less than 0.5 percent. In some areas the infection had been over 50 percent. In 1965 the infection rate as measured by the tuberculin test was 0.08 percent. The prevalence of the disease as measured by the number of carcasses showing lesions of tuberculosis at the time of regular slaughter (excluding reactors) was reduced from 2,110 per 100 million cattle slaughtered under Federal Meat Inspection in 1917 to about 2 per 100 million cattle slaughtered under Federal inspection in 1965.

The recognition of the attainment of nationwide accreditation in 1940 led to the erroneous conception that tuberculosis had been eliminated from cattle. Despite the vigorous eradication program tuberculosis has not been eradicated. The disease occurs in all sections of the country. Foci of infection are located constantly by the tuberculin test and by tracebacks to herds of origin of cattle found to have lesions of tuberculosis at time of regular kill. The disease occurs in all species of animals. It is a major cause of losses in both swine and poultry.

Federal regulations concerning tuberculosis will be found in The Code of Federal Regulations, Title 9, Chapter I, Subchapter B, Part 51, and Subchapter C, Parts 71 and 77.

The eradication program in each State is operated under the laws and regulations of that State. The Uniform Methods and Rules serve as a guide for the eradication program. The methods and rules are recommended by the United States Livestock Sanitary Association (USLSA) and approved by the Animal Health Division of the United States Department of Agriculture. They are changed periodically, after a review by the tuberculosis committee of the USLSA, to conform with the changing disease situation and latest research findings. In addition to the eradication procedures mentioned earlier, the current program includes the use of postmortem findings by meat inspection in locating the disease and maintaining area status.

Services of Accredited Veterinarians

The accredited veterinarian is an intrinsic part of the tuberculosis eradication program. He contributes to the eradication effort while providing professional services to his client. His clients depend upon him for advice regarding the prevention and eradication of the disease on a farm basis. The State and Federal animal disease control officials depend upon him for diagnosing the disease and informing his clients about tuberculosis and the eradication program. The accredited veterinarian is expected to know the laws and regulations of his State regarding tuberculosis and to be thoroughly familiar with the eradication program. He should:

1. Accurately inform herd owners about the program and the disease.

2. Accurately identify all herds and animals tuberculin tested and make complete records on standard forms regardless of reason for the test.

3. Accurately record tuberculin test information and animal identity on Interstate Health Certificates when certifying animals for such movement.

4. Make diagnosis on the proper reading date in accordance with the Uniform Methods and Rules.

5. Tag, brand, and appraise reactors.

6. Issue necessary forms, such as quarantine notices and permits, for movement of reactors to slaughter.

7. Instruct owners concerning the disinfection of premises.

8. Inform owners about indemnity payments.

9. Instruct owners about management practices aimed at avoiding the appearance or recurrence of the disease.

10. Leave copies of test reports with owners.

11. Make honest effort to obtain herd histories, particularly as they relate to animal movements into and out of infected herds and promptly report such information.

12. Submit promptly all test reports and allied or supporting papers to the State-Federal Cooperative Program Office.

13. Seek assistance from State and Federal veterinarians when in doubt about any phase of the program.

Restraint.--Each animal must be effectively restrained by nose lead or other means. A good injection is imperative. This is impossible if an animal moves when the needle is inserted. Nose leads should be thoroughly washed in disinfectant solution between animals.

Injection Site.--The site is the skin of the caudal fold at a point 2/3 of the distance from the base of the tail. Either side may be used. It is advisable, however, to use the same side habitually.

Before the injection is made, the caudal fold is examined for abnormalities that might confuse observations. These are noted and indicated to the owner.

The site is cleaned with dry cotton or cotton moistened with alcohol. Strong disinfectants may cause irritation and confuse test interpretations.

Injection Technique.--Before use, the syringe is checked for leakage, needle gage, and exposure, and adjustment for delivery of accurate tuberculin dosage. In routine area testing the tuberculin dosage is 0.1 cc.

In filling the syringe, air bubbles should be eliminated. An accurate test reading requires a careful injection. The needle is inserted between the layers of skin, then withdrawn slightly. The injection should be intradermal, not subcutaneous. The needle is cleaned with cotton moistened with alcohol between each injection.

Animal Identification.--If an animal does not have a tag, it is identified by inserting a passed tag in the right ear. Record tag number or tattoo for each animal on test chart. The owner is informed of the number of cattle under test and advised that they are to be isolated and retained on the premises until observations are made in 72 hours.

Observation of Test.--Observations are made 72 hours after injection. The ear tag or tattoo is read at the time of observation to be certain that animals are the ones injected. The injection site of each animal is observed visually and by palpation. Visual observation alone is an improper and unacceptable procedure.

It is helpful also to palpate the region anterior to the point of injection. Frequently, in reactor animals, the lymphatics are so enlarged as to be readily palpable under the skin of the caudal fold.

Failure to observe and palpate every animal, as well as hurried and careless interpretations, can cause tuberculosis to linger in a herd and discredit the test.

Interpretation and Classification.--Tissue disturbance at the injection site may vary from barely perceptible to a swelling the size of a fist. It may be hard and circumscribed, or soft and infiltrated with no distinct line or demarcation.

Neither size, shape, nor appearance of the tissue response reflects the degree of infection. Classification of tuberculin responses, therefore, is based on the professional judgment of the testing veterinarian after consideration of all aspects of both individual and herd history.

(1) Recording and Reporting Response:

All reactor and suspect responses are recorded as symbols in the observations column of the test report.

- P1 is the standard symbol for a circumscribed swelling the size of a small pea (3/16 inch diameter).
- P2, P3, P4, etc., refer to circumscribed swellings 2, 3, or 4 times the diameter of a small pea.
- PP is a "pin-point" circumscribed swelling smaller than P1.
- X is the standard symbol for a diffuse swelling which is less than twice the thickness of the skin of the normal caudal fold.
- X2 is a diffuse swelling equal to twice the thickness of normal fold of skin.

(2) The Negative ("N") Classification:

- Animals with no tissue response are classified as negative.
- Animals showing minimal tissue response may also be considered as negative, provided: (a) There are no reactors on the current test, (b) no lesions of advanced tuberculosis were demonstrated on previous tests, and (c) that the animals are not those in a retest of accredited herds, or in herds qualifying for accreditation, and are not intended for sale show or interstate shipment.

These animals are classified as suspects or reactors.

(3) The Suspect ("S") Classification:

- This is a broad classification. It is to be used for animals showing doubtful response to tuberculin which, in the professional judgment of the testing veterinarian, should not be classified as reactors.

INTERSTATE AND INTRASTATE MOVEMENT OF LIVESTOCK

The early warning line in the protection of the Nation's animal food supply is the veterinarians on the ranches and farms. The second defense is the veterinarians at the centers of livestock concentration--the public stockyards and the specifically approved stockyards and livestock markets--along all lines of transportation.

Accredited veterinarians at ranches and farms:

- Test, vaccinate, and perform other veterinary functions in compliance with State and Federal regulations.
- Issue certificates, after inspection, attesting to the health of animals to be moved interstate and intrastate according to State and Federal regulations.
- Ensure, before a certificate is issued, that reactors are properly tagged and branded and that the approved destination of animals is placed on ANH Form 1-27.
- Cooperate with animal disease eradication officials in carrying out and enforcing State and Federal regulations.

Public Stockyards

Federal inspection of livestock at public stockyards originated in 1890. It arose from congressional authorization for the investigation of pleuropneumonia, or any contagious, infectious, or communicable disease "along the lines of transportation from all parts of the United States...." Today, this embraces health inspections for all communicable diseases of all livestock received at Federally inspected stockyards.

Accredited veterinarians at public stockyards:

- Cooperate with animal disease eradication officials in the enforcement of State and Federal regulations.
- Test, vaccinate, and perform other veterinary functions in compliance with State and Federal regulations.
- Perform additional services at some Public Stockyards under special authorization.

Specifically Approved Stockyards and Livestock Markets

The designation of specifically approved stockyards and livestock markets was authorized under Federal regulations on January 1, 1957. The original purpose--preventing the spread of brucellosis and paratuberculosis--has been expanded to include hog cholera and sheep scabies.

Accredited veterinarians at specifically approved yards and markets--

- Make careful inspection of animals, before issuing certificates, to ensure that only healthy animals are permitted to be moved.
- Promptly notify State or Federal officials concerned whenever evidence of a reportable communicable disease is found.
- Supervise the proper disposition of exposed and diseased animals.
- Supervise the cleaning and disinfection of pens, premises, and vehicles that have contained diseased animals.
- Test, vaccinate, and issue certificates of animal health to comply with Federal regulations, as well as those of the State of destination.
- Inspect animals for compliance with Federal brucellosis regulations.
- Issue certificates that are clear, accurate, and legible, and make prompt distribution of these as required by State and Federal regulations.

Practically all States have health requirements governing the admission of animals from other States and laws and regulations controlling the movement of livestock within the State. Accredited veterinarians should be familiar with State and Federal regulations on livestock movements. These are set forth in ARS 91-17-3 "Health Requirements and Regulations Governing the Interstate and International Movement of Livestock and Poultry," published by ARS, U.S. Department of Agriculture.

Unqualified acceptance and conscientious performance of all duties involved in the interstate and intrastate movement of livestock is a basic responsibility of accredited veterinarians.

DIAGNOSTIC LABORATORY SERVICES

ANH Division diagnostic services are performed at two locations: (1) the National Animal Disease Laboratory (NADL) at Ames, Iowa, and (2) the Animal Health Division Technical Services Laboratory at Beltsville, Md.

NADL, Ames, Iowa

Diagnostic facilities at NADL are available to accredited veterinarians only after clearance with the Veterinarian in Charge. Following clearance, specimens may be sent to the Assistant Director for Regulatory Services, National Animal Disease Laboratory, Ames, Iowa.

A guide to the proper preparation and shipment of specimens to the Laboratory at Ames, as well as the type of test and time required for the tests are shown below.

ANH Technical Services Laboratory, Beltsville, Md.

Cooperative Laboratory Surveillance--One or more laboratories is maintained by each State in cooperation with the ANH Division to perform official tests for brucellosis. All cooperative laboratories at the State-Federal level are requested to participate in semiannual check tests on titered serums provided by the ANH Technical Services Laboratory. All other laboratories approved to perform official tests are provided with supportive services from an appropriate cooperative laboratory.

A guide to the proper preparation of specimens of diseases, as well as tests, proper packing, preservation, and shipment to the Assistant Director for Regulatory Services, National Animal Disease Laboratory, Ames, Iowa (all specimen should be submitted through the Veterinarian in Charge of State of origin).

Disease	Tissue required	Test	Time required for tests by laboratory	Packing	Preservation	Shipment
Brucellosis.....	Supramary lymph nodes (entire), additional lymph nodes and tissues as suspected.	Brucella isolation and typing.....	2 to 8 wk.	Polystyrene container (sent on request).	Frozen (dry ice) (seal specimen from CO_2 gas).	Airmail.
	Serum--4 to 5 ml. per animal.....	Plate, tube, and supplemental tests....	1 to 2 wk.	Polystyrene container in plastic vials preferred.	Ice refrigeration or frozen with (dry ice).	Do.
	Cultures, on slant.....	Identification and typing.....	2 to 4 wk.	Double mailing container--inner tube metal.	None.....	Do.
	Vaccines, 3 vials.....	Viability, purity, pH, and Colonial characteristics.	7 to 10 day.	Double container in polystyrene containers.	Ice refrigeration (ice can) not frozen.	Do.
	Antigen, 2 vials.....	Purity, sterility, comparative sensitivity, pH, and cell concentration.	7 to 10 day.	Double container in polystyrene container.	....do.....	Airmail or air express.
	Milk--30 ml. minimum per quarter, obtained aseptic in sterile glass tubes.	Culture, ring test or whey test.....	2 to 8 wk.	Polystyrene container....	Ice refrigeration (ica can).	Airmail.
Ram epididymitic..	Serum--3 ml. or more.....	CF test for ram epididymitis.....	1 to 2 wk.	Polystyrene container in plastic vials preferred.	Ice refrigeration (ica can) or frozen with dry ice.	Do.
Dermatomycoses(fungus infection of skin).	Hair, skin scrappings, scabs, or crust.	Isolation and identification of dermatophyte.	1 wk. to 1 mo.	Clean, dry, envelope (paper).	None.....	Air express.
Hog cholera.....	Blood-clotted.....	Florescent antibody.....	24 to 48 hr.	Polystyrene container (sent on request).	Frozen (dry ice) except brain.	Air express.
	Tonsils.....	African swine fever.....	72 to 96 hr.			
	Spleen--entire.....	Animal inoculation.....	1 to 7 wk.			
	Serum--3 to 5 ml.	Serum neutralization.....	1 to 2 wk.			
	Brain--entire.....	Histologic examination.....	1 hr. to 1 day.	10-percent formalin supplied.	Brain: 10-percent buffered formalin.	Do.
Infectious bovine rhinotracheitis.	Lung, nasal secretions, pharynx, trachea, bronchus, esophagus, bronchial nodes, parotid gland--5 to 20 g. each.	Virus isolation and identification.....	2 to 3 wk.	Polystyrene container (sent on request or obtain own).	Frozen (dry ice)..... (protect tissues from CO_2 gas).	Air express.
	Serum, acute and convalescent--5 ml.	Serum neutralization.....	1 to 3 wk.	....do.....	....do.....	Do.
Johne's disease: (Bacteriology)....	Entire ileocecal valve and adjacent 6 inches of gut.	Bacteriological examination (smear)....	3 day.	Polystyrane container (sent on request).	Frozen (dry ice).....	Airmail.
		Culture.....	8 wk.			
(Histopathology)..	Sections from ileocecal valve, rectum, and adjacent mesenteric lymph nodes (6 sections not over 4 mm. thick).	Histologic examination.....	1 hr. to 3 day.	....do.....	Six sections not over 4 mm. thick in 10-percent formalin.	Do.
Newcastle disease and fowl plague.	Lung, brain, tracheal exudate, spleen, proventriculus, intestines, liver, gall bladder, heart--5 to 10 g. each.	Virus isolation and identification.....	2 to 3 wk.	Polystyrene container (sent on request).	Frozen (dry ice).....	Air express.
	Serum, acute and convalescent--5 ml.	Serum neutralization test.....	1 to 3 wk.	Place in metal can and seal.	....do.....	Do.
	Brain and other tissues.....	Histologic examination.....	1 day to 1 wk.	Polystyrene container.	10-percent formalin.....	Do.

Salmonellosis (including Arizona).	Cultures on nutrient agar slant or stab. Other media accepted.	Serotyping.....	3 wk.	Double mailing container (metal inside).	None.....	Regular mail or airmail.
Scrapie.....	Brain stem and cerebellum.....	Histologic examination.....	2 day. to 1 wk.	Polystyrene container (sent on request).	10-percent formalin.....	Airmail.
	Cerebrum.....	Mouse inoculation.....	Up to 24 day.	....do.....	Frozen (dry ice).....	Do.
Shipping fever (parainfluenza 3, SF4).	Nasal secretions, lung, parotid, and bronchial lymph glands--5 to 20 g. each.	Virus isolation and identification.....	2 to 3 wk.	Polystyrene container (sent on request).	Frozen (dry ice).....	Air express.
	Nasal pharyngeal rinse in tissue culture medium.	....do.....	2 to 3 wk.	....do.....	....do.....	Do.
	Serum, acute and convalescent--5 ml.	Serum neutralization test.....	1 to 3 wk.	....do.....	....do.....	Do.
	Nasal secretions, lung, parotid, and bronchial lymph glands--5 to 20 g. each.	Histologic examination.....	1 day to 1 wk.	....do.....	Tissues in 10-percent formalin...	Do.
Toxilogic specimens..	Toxicologist should be contacted directly.	Dependent upon condition suspected.....	2 day. to 1 mo. or longer.	Polystyrene container (not furnished).	Frozen (dry ice).....	Air express.
Tuberculosis: (Culture).....	Lesions--10 g. minimum plus regional lymph nodes.	Culture.....	M. bovis--6 wk.	Polystyrene container (sent on request).	Chloramine T solution (sent on request).	Airmail.
		Biochemical and animal typing.....	Others--8 wk.			
	Skin lesions, lesion without hide, regional lymph nodes.	Culture.....	M. bovis--6 wk.	....do.....	Refrigeration.....	Do.
		Biochemical and animal typing.....	Others--8 wk.			
(Histologic examination).	Lesions and adjacent normal tissue including skin lesions (if not enough of lesion to divide, send in chloramine T only).	Histologic examination.....	1 hr. to 3 day.	....do.....	10-percent buffered formalin (sent on request).	Do.
Vesicular stomatitis	Bovine vesicular epithelium (1.5 to 5 g.) or vesicular fluid.	Complement fixation serum and tissue...	8 hr.	In sealed metal containers	Frozen (dry ice).....	Air express.
	Equine vesicular epithelium (1 g.) or vesicular fluid.	Virus isolation and identification.....	1 to 2 wk.	....do.....	....do.....	Do.
	Serum, acute and convalescent--5 ml.	Serum neutralization.....	1 to 3 wk.	....do.....	....do.....	Do.
Virus diarrhea (mucosal disease complex).	Whole blood, spleen, stomach, mesenteric lymph glands, Peyer's patch, section of femur for bone marrow--5 to 20 g. each.	Virus isolation and identification.....	2 to 3 wk.	Polystyrene container (sent on request).	Frozen (dry ice) (protect tissues from CO_2 gas).	Air express.
	Serum, acute and convalescent--5 ml.	Serum neutralization.....	1 to 3 wk.	....do.....	....do.....	Do.

All veterinarians are encouraged to occasionally exchange Brucella vaccine with a State-Federal cooperative laboratory for viability tests as an indication of its quality and effectiveness.

These laboratories provide diagnostic services for noncontagious and parasitic diseases. The facilities are available to the accredited veterinarian. Specimens should be submitted through the ANH Division Veterinarian in Charge. The following suggestions should govern the preparation and transmittal of specimens:

- ANH Division Sero-Diagnostic Reference Laboratory: Serum for anaplasmosis, dourine, glanders and equine babesiosis, and CF tests should be preserved with sufficient aqueous phenol to provide a final concentration of 0.5 percent. This is done by adding one part of a 5-percent aqueous solution of phenol to nine parts of serum. The proportions of phenol and serum should not be exceeded. The tube should be well-shaken to assure proper preservation.

  A minimum of 5.0 ml. of clear serum is needed and specimens need not be refrigerated. Samples should be accompanied by an original and four copies of the ANH 10-9 anaplasmosis test report form or ANH 10-1 laboratory request report form.

  Serum from birds suspected of having PPLO infections may be sent to the ANH Technical Service Laboratory, Beltsville, Md., for confirmation of diagnosis.

  The Beltsville Laboratory distributes to field laboratories positive and negative pleuropneumonialike organism (PPLO) serum for test controls, as well as supplies hemagglutination antigen (HA), which is used as a confirmative test of serum plate and tube reactions.

- ANH Division Screwworm Identification Laboratory:--Specimens of adult and/or larval forms should be obtained from each individual case and placed in separate brucellosis blood vials containing 70-percent alcohol. Specimens are shipped air mail. The package should contain two copies of the field collection form or two copies of ANH 11-3 forms with complete collection data.

- ANH Division Ectoparasite Reference Laboratory:--Mites should be separated from skin scrapings and mounted in Hoyer's medium on a clean microscope slide. Multiple slides are preferred. The Hoyer's mounted slides should be heated not to exceed 110° F. for 24 hours. Each case should be accompanied by an ANH Form 5-38. Where mounting facilities are not available, multiple mites from each animal may be shipped in small vials containing 70-percent alcohol. Dry scrapings are undesirable. Where local identification is impossible, individual animal scrapings shipped in a closed vial without alcohol or other preservatives will be accepted.

  In the submission of ticks, several should be carefully removed from each animal host and placed in a brucellosis bleeding vial containing 70-percent alcohol. Ticks from different species of host should never be mixed. ANH Form 5-38 should accompany each lot of ticks from different owners.

- ANH Division Chemical Reference Laboratory:--All commercial chemical preparations used in regulatory programs are submitted for chemical analysis prior to acceptance by the Division. Current lists of permitted disinfectants and dips are thereby maintained. Specimens of products for analysis should be submitted in either 8- or 16-ounce glass or plastic bottles carefully packed to prevent breakage.

All specimens of parasites, chemical preparations (except toxicological) and sera (nonvirus serum) for complement-fixation tests are sent directly to:

ANH Division Technical Service Laboratory
ARS, USDA
Agricultural Research Center, Bldg. 320
Beltsville, Md. 20705

The type of specimen should be indicated on the outside of the package.

NEVER SHIP SPECIMENS FROM SUSPECTED VESICULAR DISEASE OR ANY FOREIGN ANIMAL DISEASE TO LABORATORIES WITHOUT PRIOR PERMISSION FROM THE HYATTSVILLE, MD., OFFICE.

CLEANING AND DISINFECTING

The Nature of

Disinfection is the chemical destruction of pathogenic organisms. For destruction, there must be contact.

There can be no contact of disinfectant with organism through organic debris. Disinfection, therefore, must be preceded by cleaning. Cleaning is the thorough mechanical removal of gross waste.

Without effective cleaning and disinfecting, there may be no eradication of disease.

Responsibility for

Accredited veterinarians engaged in disease control programs have a responsibility to see that trucks, equipment, and premises are cleaned and disinfected. At the time reactors are tagged, branded, and appraised, it is the duty of the accredited veterinarian to explain in detail and to demonstrate to the farmer or the trucker the proper cleaning of premises, equipment, and vehicles.

Steps in

- All bedding, manure, and accumulated waste should be removed.
- Surfaces should be scrub-brushed with soap and water, any good alkaline detergent in warm water, or lye at the rate of one 13-ounce can to 5 gallons of water.
- Lye should remain in contact with surfaces for 24 hours.
- Surfaces are flushed with clean water and a disinfectant applied preferably with pressure spray at 90 to 120 pounds per square inch.

Precautions in Use

Lye.--Lye is very caustic. It will burn skin and corrode metal. It should be handled carefully. Rubber boots should be worn. Lye will destroy many micro-organisms and is a good cleaning agent. However, it is not effective against the tubercle baccillus and is not a permitted disinfectant against tuberculosis.

Sodium orthophenylphenate.--For effective disinfection this solution must be applied at a temperature of 60° F. or higher. Whenever the temperature falls below 60° F., the solution must be heated to at least 120° F. This material is not effective when preceded by cleaning with sodium hydroxide (lye) or other highly alkaline solutions. Containers should be tightly closed to prevent deterioration.

Spray equipment.--In using mechanical spray equipment for disinfecting, the electricity in the building always should be disconnected. This is a safety precaution to prevent fire and to prevent possible electrocution of the operator.

Recommended Spray Mixtures

Disinfectant	Percent solution	Mixtures	Disease
Cresylic [1]	4	1 cup to 2 gal. water.	Brucellosis. Fowl plague. Hog cholera. Newcastle disease. Shipping fever. Swine erysipelas. Tuberculosis.
Sodium carbonate (soda ash)	4	1 lb. to 3 gal. water.	Foot-and-mouth disease. Vesicular exanthema. Scrapie.
Sodium hydroxide (lye) Caustic soda	2	13½ oz. can to 5 gal. water.	Hog cholera. Foot-and-mouth disease. Vesicular exanthema. Scrapie.
Sodium orthophenylphenate (USDA approved)	1	1 lb. to 12 gal. water.	Brucellosis. Tuberculosis. Hog cholera.
	2	2 lbs. to 12 gal. water.	Newcastle disease and Fowl plague.
Sodium hydroxide (lye)	5	5 (13½ oz.) cans to 10 gal. water.	Anthrax. Blackleg.

[1] See ANH Permitted List.

IMPORTATION OF BYPRODUCTS

Regulations

Imported meats, animal byproducts, and related materials may be a means of introducing foreign animal diseases into the United States. The Department of Agriculture has regulations governing the importation of such products designed to minimize this risk. These regulations are administered by the Animal Health Division. They are covered in The Code of Federal Regulations, Title 9, in the following parts:

- Part 94--Rinderpest, foot-and-mouth disease, fowl pest (fowl plague), and Newcastle disease (avian pneumoencephalitis). Prohibited and restricted importations--prohibits the importation of cattle, sheep, other ruminants, or swine, or of fresh, chilled, or frozen meat of ruminants and swine from any country declared by the Secretary of Agriculture to be infected with foot-and-mouth disease or rinderpest. The regulation also has sanction in Federal law, Section 306a of the Act of June 17, 1930.

- Part 95--Sanitary control of animal byproducts (except casings), and hay and straw, offered for entry into the United States.
- Part 96--Restrictions of importations of foreign animal casings offered for entry into the United States.

Animal Products

Each year millions of pounds of animal products and related materials are imported for agricultural and industrial purposes from all over the world. These include hides and skins, wool, hair, bristles, bones, bonemeal, horns, hoofs, tankage, bloodmeal, and finished pharmaceuticals prepared from animal glands and other materials.

The Division is concerned with those products that come from countries where rinderpest or foot-and-mouth disease is known to be present. Accordingly, unless effective and acceptable processing has been done in the country of origin, animal products from the infected countries are permitted entry only under restrictions.

In the case of bone, horns, hoofs, and bonemeal--usually imported for agricultural uses--there is the additional risk of anthrax. Since anthrax is present throughout the world, to prevent its further incidence in U.S. livestock, all bones and bone products are permitted entry under restrictions.

By restricted entry is meant:

- Inspection of cargo at dockside.
- Supervision of the loading of the restricted products on railroad cars or motor trucks.
- Sealing transporting vehicles with government seals.
- Release of shipments to processing establishments previously approved by ANH Division.

IMPORT--ANIMALS, ANIMAL SEMEN, POULTRY, AND HATCHING EGGS

Regulations

The Department of Agriculture's regulations administered by ANH Division to prevent the introduction of foreign animal diseases into the United States are contained in the following parts of The Code of Federal Regulations, Title 9:

- Part 92--Importation of certain animals, animal semen, poultry, and hatching eggs.
- Part 94--Rinderpest, foot-and-mouth disease, fowl pest (fowl plague), Newcastle disease (avian pneumoencephalitis), and African swine fever: Prohibited and restricted import animals including poultry.

Purpose

These two regulations are evidence of an alertness to the dangers accompanying the importation of certain animals, animal semen, poultry, and hatching eggs. There is increasing awareness of the potential risk from various diseases, such as foot-and-mouth disease, rinderpest, contagious bovine pleuropneumonia, African horsesickness, African swine fever, East Coast fever, heartwater, fowl plague, exotic strains of Newcastle disease, and others, including the tick-borne diseases.

Animals Governed by Import Regulations

Cattle, sheep, goats, and other ruminants (animals that chew the cud, such as buffalo, deer, antelope, camels, and llama); also domestic swine and all varieties of wild hogs, horses, burros, mules, zebras, and poultry (including chickens, ducks, geese, swans, turkeys, pigeons, doves, pheasants, grouse, partridges, quail, guinea fowl, and pea fowl of all ages, and eggs for hatching purposes).

Prohibited Imports

Current legislation prohibits the importation of cattle, other ruminants, and swine from any country declared by the Secretary of Agriculture to be infected with foot-and-mouth disease or rinderpest. Regulations specify that wild ruminants from such countries may be imported into the United States and outline the manner in which they may enter. Such animals may be imported for exhibition only and are maintained under permanent post-entry control in zoos specifically approved by ANH Division for the Department.

Cattle are also prohibited entry from any country where contagious bovine pleuropneumonia exists, such as Australia; and from cattle fever tick-infested areas, such as countries in Central America and the islands of the Caribbean. There are legal provisions for certain tick-free cattle to move from tick-infested areas of Mexico into Texas and from the British Virgin Islands into the U.S. Virgin Islands.

Ports of Entry

To provide for the orderly importation of animals and poultry and for veterinary inspection service, the Department has designated ports of entry--16 coastal, 52 along the Canadian border, and 14 along the Mexican border. Importations must be made through these designated ports, except in special cases when the Director of the Division may designate other ports with the concurrence of the Secretary of the Treasury.

Quarantine Stations

The Department of Agriculture owns and operates the "Athenia" quarantine station for the quarantine of animals and poultry entering the United States at the port of New York. At other ports of entry, when quarantine is required, it is the responsibility of the importer to arrange for quarantine facilities subject to the approval of ANH Division.

Basic Import Requirements

An import permit must be obtained by the importer from the Washington Office of ANH Division before animals and poultry are potentially eligible for importation from the country of origin.

Permits are not usually required for animals or poultry from Canada (unless they have been in countries other than Canada or the United States), for horses from any country, or for ruminants and swine from the seven northern States of Mexico.

Certification by a salaried veterinary officer of the national government of the country of origin showing freedom from disease and exposure thereto must accompany shipment to the port of entry.

Veterinary inspection must be given at the port of arrival in the United States.

Quarantine, when required, must be completed for a specified minimum period at the port of entry (21 days for poultry, 30 days for ruminants or swine, and 60 days for equine stock from African horsesickness infected countries).

Inspection at Port of Entry

Veterinary examination of the animals and poultry is given by an ANH veterinarian at the port of entry. All animals found to be free from communicable disease, and not exposed thereto within 60 days prior to the offer for importation, may be admitted subject to various other provisions.

All necessary accompanying papers, such as certificates, documents, and test charts, must be accurate and complete before importation is permitted.

Specific Animals

- Domestic ruminants must be accompanied by a health certificate and, when applicable, a test chart showing negative results to tests for tuberculosis and brucellosis.
- Horses from most countries must show negative results to dourine and glanders tests on blood samples collected at the U.S. port of entry.
- Dogs subject to the Department's regulations are collie, shepherd, and similar breeds intended for use in the handling of lifestock. To determine their freedom from Multiceps multiceps, such dogs, except those from Canada, Mexico, and countries of Central America and the West Indies, are examined at the port of entry.
- Wild ruminants and swine (zoo animals) may be imported from foot-and-mouth disease or rinderpest-infected countries, but rigid requirements have been established. One of these is that following release from quarantine the animals must be consigned only to a Department-approved Zoo operating under acceptable standards and under appropriate supervision.

Precautionary Treatment

Certain precautionary treatments of animals against external parasites and the disinfection of accompanying equipment and litter are carried out to further safeguard the livestock of this country.

EXPORT BYPRODUCTS

The Department of Agriculture regulations administered by the ANH Division for the certification of inedible animal byproducts is contained in Part 156--Inspection and Certification of Animal Byproducts. An explanation of these regulations appears in AIQ Memorandum 640.13, Certification of Inedible Animal Products.

This regulation provides for the inspection and certification of the class, quality, quantity, and condition of inedible animal byproducts, upon request. It also provides authority for the Department to foster and assist in the development of new and expanded markets, both domestic and foreign, and in the movement of agriculture products to consumers in the U.S. and abroad. Under the provisions of the regulations, ANH Division inspectors are authorized on a reimbursable basis to issue and endorse sanitary certificates to accompany shipments of animal byproducts such as, but not limited to, hides, meat meal, tankage, bonemeal, bones, blood products, feather meal, and inedible tallow.

In order for an ANH Division representative to properly issue or endorse these sanitary certificates he must know the import requirements of the country of destination. It is also necessary that the operation of the processing plant be under direct supervision of an employee authorized by this Division to perform such inspection service. Only certificates that contain statements that are known to be factual are to be issued and endorsed by representatives of this Division.

This regulation also provides for additional supervision beyond that which can be furnished by the Meat Inspection Division (MID), Consumer and Marketing Service (C&MS), involving the disposition of inedible or condemned materials. These materials are processed under supervision of the ANH Division or MID on a reimbursable basis for the preparation of canned pet food and other commercial products.

EXPORT ANIMALS

Regulations

Regulations governing the "Inspection and Handling of Livestock for Exportation" are contained in Part 91. These are minimum requirements and take precedence over the import regulations of the receiving foreign country if the latter are less restrictive.

Purpose

- To promote foreign trade by insuring, as far as possible, that only sound and healthy animals are exported.
- To provide for humane handling and safe transport.

Animals Governed by Export Regulations

Export regulations of the Department are applicable to cattle, sheep, goats, swine, horses, mules, and burros.

When required by the import regulations of the receiving country, certain other animals, poultry, and hatching eggs may be inspected and a health certificate issued.

Foreign Import Requirements

The ANH Division is familiar with the import requirements of most English-speaking countries and can usually supply current information. However, requirements of other countries are difficult to maintain. It is the responsibility of the shipper to obtain current information concerning import regulations of the receiving country. Since most foreign countries require that a permit or license be issued by them before animals may be imported, the requirements that are applicable to a proposed importation are usually included when the permit or license is issued.

Inspection at Origin

Veterinary inspection of animals intended for shipment to a foreign country must be made at origin by an accredited veterinarian, a full-time, State-employed veterinarian, or an ARS veterinarian. However, the receiving country may require inspection and certification by an ARS veterinarian. This is true for sheep and goats destined to Canada. Test charts and health certificates should be completed and issued in accordance with specific instructions.

Department export regulations require that all dairy and breeding cattle, except calves born after test of the dam, be tuberculin tested with negative results within 30 days from the date of shipment from the U.S. point of origin.

All cattle (bulls and females) over 6 months of age except officially brucellosis-vaccinated cattle must be blood tested for brucellosis with negative results in dilutions of 1:50 and above within 30 days from the date of shipment from the U.S. point of origin.

Besides the tuberculin and brucellosis tests, some countries require other tests for disease such as paratuberculosis and anaplasmosis. If made, the date and results of these tests should be clearly shown.

An officially vaccinated animal is defined as a bovine animal of a dairy breed vaccinated against brucellosis from 4 through 8 months of age--or a bovine animal of a beef breed in a range or semi-range area, vaccinated against brucellosis from 4 to 12 months of age--under the supervision of a Federal or State Veterinary official, with a vaccine approved by the Animal Health Division, ARS, USDA: permanently identified as a vaccinate and reported at the time of vaccination to the appropriate State and Federal agencies cooperating in the eradication of brucellosis.

Officially vaccinated animals over 30 months of age must be blood tested for brucellosis with negative results in dilutions of 1:100 and above.

NOTE: Canada does not consider the brucellosis vaccination of any animal official, if done after the day the animal becomes 9 months old.

The tuberculin test and the brucellosis test may be waived by the Director of the Animal Health Division when so requested by a responsible official of the country of destination, if the Director feels that it can be done without endangering the livestock export trade of the U.S.

Health Certificate

A United States Origin Health Certificate (AIQ Form 140) has been designed for shipments of livestock to foreign countries. Health certificates record the veterinary health inspection of export animals at point of origin and contain appropriate information about the diagnostic tests that were completed.

In addition, health certificates should show any vaccinations or immunizations given immediately prior to shipment, with appropriate dosage product used, and date administered clearly indicated.

Completing Certificates

Certificates accompanying animals to port of export shall show proper identification of the animals in the shipment with respect to breed, sex, and age in date of birth, and, when applicable, shall also show registration name and number, tattoo markings, tag number, or other natural or acquired markings.

The correct date of issuance of the certificate should be indicated. This should coincide with the date of actual inspection of the animals.

Only true statements should be made. Unsubstantiated statements such as "these animals are free of all diseases" are not acceptable.

Names and addresses of consignor and consignee must be shown.

Port of export, and country of destination, must be clearly shown.

Endorsement of Health Certificates

All copies of the completed certificate, as one of the necessary export requirements, shall be endorsed by the ANH veterinarian in charge in the State of origin, or by another ANH veterinarian so authorized by the Director of the Division.

IMPORTANT: All copies of certificates must be legible and complete before they can be properly endorsed.

Transportation

Department regulations require that all animals intended for export be moved from premises of origin to a port of export in cleaned and disinfected trucks, railroad cars, or other conveyances unless such conveyances were not previously used to transport livestock. Crates must be constructed of new material, or if previously used to transport livestock must first be cleaned and disinfected.

Reinspection and Certification at Port of Export

Animals destined to a foreign country are given veterinary inspection at ports of export specified by regulation, except that such reinspection of livestock destined overland to Canada and Mexico is the responsibility of the salaried veterinarians of those governments. If the animals are accompanied by properly executed and endorsed health certificate, and the ANH port veterinarian finds the animals to be free from evidence of communicable disease and exposure thereto, he may issue a specific export certificate to that effect (except in the case of Canada and Mexico), which accompanies the animals to destination. Issuance of the export certificate is based upon the port veterinarian's inspection of the animals and his examination of the documents accompanying the shipment. The law precludes clearance to the vessel with livestock aboard until the export certificate has been issued.

Export Animals, Poultry and Hatching Eggs--Special Requirements

Animals.--Some special requirements for movement of animals from the United States should be noted:

- Except for immediate slaughter, all sheep and goats destined for Canada must be inspected and the necessary certificates issued at the point of origin by an ARS veterinarian.
- Cattle for rodeos, circuses, or other similar entertainment purposes, must be accompanied by a health certificate properly issued and endorsed within the preceding 3 months for reentry into the United States. Diagnostic tests are not required for such animals.

Poultry and Hatching Eggs--This Department does not have regulations applicable to the export shipment of poultry and eggs; therefore, such shipments are governed by the import regulations of the receiving country.

Canadian authorities have approved a specific certificate (AIQ-35) for poultry and hatching eggs from the United States. These certificates may be obtained from the ARS Veterinarian In Charge in the State of origin, who must also endorse them when completed. Inspection and certification for poultry and hatching eggs destined for Canada may be done by an accredited veterinarian. A summary of other requirements necessary to meet Canadian import regulations for poultry is contained on the reverse side of the certificate.

Mexican import regulations contain the requirement that a prior permit for livestock, poultry, and hatching eggs be obtained from the Ministry of Agriculture, Mexico, D.F., Mexico. They also require that health certificates accompanying such shipments to Mexico be visaed by a Mexican consular officer nearest the point of origin.

IMPORTANT--ARS personnel authorized to endorse certificates for export animals and poultry have been instructed not to do so unless the certificates have been:

- Issued by an accredited veterinarian, State veterinarian, or Federal veterinarian.
- Properly executed and there is reason to believe that all statements are accurate and factual insofar as can be determined and are not misleading or worthless.

ORGANISMS AND VECTORS

Part 121 of Title 9 CFR states that no organism (which may introduce or disseminate any contagious or infectious disease of animals, including poultry), or vectors of such organisms, shall be imported into the United States or transported from one State or Territory or the District of Columbia to another State or Territory or the District of Columbia without a permit issued by the Secretary of Agriculture and in compliance with the terms thereof.

Since vectors include insects and arthropods, and animals of any kind, that may be carriers of organisms of human, as well as animal diseases, and in some cases plant diseases, our regulations overlap in some instances with those of the United States Public Health Service and the Plant Quarantine Division. It should be noted that we are increasingly aware of the role of small feral animals--including rodents, marsupials, amphibians, reptiles, and birds--as possible carriers of disease organisms, and of various ectoparasites which are vectors of disease organisms.

Importation of various tissues or serums of swine and ruminant animals from countries where foot-and-mouth disease is declared to exist is prohibited, except for pharmaceutical or biological purposes under conditions and restrictions prescribed in a prior veterinary permit in each instance. In addition, following recent extension of serious epizootic diseases out of Africa, notably the spread of African swine fever into Spain, Portugal, and France, and of African horsesickness into all countries of the Near East, Middle East, India, and Pakistan, similar restrictions have been placed on the importation of serums of horses, other animals, and poultry. A costly outbreak of Oriental fowl plague occurred in England in 1963. Tissue cultures, including those of rabbits, guinea pigs, and other animals, are also suspect and require prior entry permits because they may contain, or have been grown in, restricted animal serums.

Since it would be impractical, as well as impossible, to control or issue a prior permit for movement of all animal pathogens occurring in the United States, our general policy is to require a prior permit only for those domestic pathogens that are enzootic such as vesicular stomatitis virus, bluetongue virus, scrapie agent, and Venezuelan equine encephalitis virus; or of exceptionally high virulence, such as certain strains of Newcastle disease virus of extremely high virulence; or for which there is a national animal disease eradication or control program, such as hog cholera virus, but not tuberculosis or brucellosis organisms at the present time. Various newly isolated agents may be placed in this restricted category until their significance and distribution are known.

Diagnostic specimens, such as tissues, blood, secretions, excretions, and unstained smears from livestock or poultry suspected of having a disease classified in the restricted category, should not be moved interstate without a prior permit. Appropriate State and Federal livestock sanitary officials should be notified when such diseases are suspected.

Disease agents and vectors indigenous to all States, and diagnostic specimens from animals known to be, or suspected of being, infected with such agents of everyday disease significance usually may be moved interstate without prior permit.

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Hyattsville, Maryland 20782

Postage and Fees Paid
U. S. Department of Agriculture

Official Business

This publication supersedes ARS 91-6-3, "Duties and Responsibilities of Accredited Veterinarians"

USE PESTICIDES AND DISINFECTANTS SAFELY

If you use pesticides and disinfectants, apply them only when needed and handle them with care. Follow the directions and heed all precautions on the container label. If pesticides are handled, applied, or disposed of improperly, they may be injurious to humans, domestic animals, desirable plants, honey bees and other pollinating insects, fish, and wildlife, and may contaminate water supplies.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1966 O - 200-464 (32)